

B R E V I O R A

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NUMBER 54

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By WALTER C. BROWN¹

INTRODUCTION

The genus *Brachymeles* was erected by Duméril and Bibron (1839) to accommodate a single species, *B. bonitae*, of this unique group of Philippine skinks. Subsequently, *B. bicolor* was described by Gray (1845) as the type of the genus *Senira*; *B. gracilis* and *B. schadenbergi* were described by Fischer (1885); and Taylor described *B. elerae* and *B. burksi* (1917), *B. suluensis* and *B. vermis* (1918), *B. boulengeri* (1922) and *B. pathfinderi* and *B. wrighti* (1925). In 1922 Taylor correctly assigned *B. suluensis* to the synonymy of *B. gracilis* and also pointed out that *B. boulengeri* is closely related to the latter. It now appears that *B. boulengeri* is probably best regarded as a geographically isolated population which is only subspecifically differentiated from *B. gracilis*. It differs only in minor characteristics from the nominate form and does not overlap in range with any other population of this species as it does with *B. schadenbergi*. A re-examination of the type of *B. bonitae*, for which assistance I am deeply indebted to Dr. Jean Guibé, indicates that *B. burksi* is

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conspecific with it. Two additional species are described in the present paper.

The members of this genus are secretive, burrowing lizards that exhibit to a high degree elongation of the body and reduction of limbs, eyes, and ears — specializations that in general characterize other strictly burrowing skinks. The most highly specialized forms have rarely been encountered by field zoologists. As a result, several of the species are represented by only a few individuals and nothing of their inter-island variation is known, assuming for the moment that their range, as in the instance of *B. bonitae*, includes more than one island. Contrarily, at least five of these highly specialized species are known only from type localities, and the possibility also exists that many of these populations have very restricted ranges and are represented by relatively small numbers. Substantiating evidence can be pointed out in the instance of *B. tridactylus*. Four examples of this species were collected in the mountains of southern Negros Oriental, some 20 kilometers west of Bais, during a field period of about two weeks in January and March, 1955, whereas no specimens were uncovered in the Cuernos de Negros area of the same mountain range, about 50 kilometers to the south, although this area was much more thoroughly investigated over a nine month period from July, 1954 to March, 1955. The author is of the opinion that this species does not occur in the Cuernos de Negros area. Other species, as *B. gracilis* and *B. schadenbergi* are widespread within the archipelago, and sufficiently large samples are available from several of the islands that well differentiated populations can be recognized. These are regarded as distinct subspecies.

No member of the genus has been recorded from outside of the Philippine Archipelago. However, in view of its wide range within this group of islands, including the Sulus and Palawan, both of which are in close proximity to Borneo, it is not improbable that the genus may occur in North Borneo, at least.

Several of the more specialized species can be readily distinguished on the basis of the degree of reduction of the limbs and elongation of the body. Greater difficulty exists in the recognition of valid species and subspecies of the pentadactyl forms. Part of the difficulty is due to the fact that certain of the differentiating characters are not easily quantified, and other, fre-

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In the course of the present study 266 specimens have been examined. The name of the institution in whose collections cited specimens are deposited is, in most instances, abbreviated as follows:

C.A.S., California Academy of Sciences, San Francisco, California

C.N.H.M., Chicago Natural History Museum, Chicago Illinois

M.C.Z., Museum of Comparative Zoology, Cambridge, Massachusetts

N.H.M.S.U., Natural History Museum of Stanford University, Stanford, California

S.U., Silliman University, Dumaguete City, Negros Oriental

SYSTEMATIC DISCUSSION

BRACHYMELES Duméril and Bibron

Brachymeles Duméril and Bibron, 1839, Erpt. Gen., 5: 776 (type species:

Brachymeles bonitae Duméril and Bibron, 1839, by monotypy).

Senira Gray, 1845, Cat. Lizards Brit. Mus.: 98 (type species: *Senira bicolor* Gray, 1945, by monotypy).

Brachymelus Agassiz, 1846, Nomen. Zool. Index Univ.: 51 (emendation).

Diagnosis and definition. Pterygoid and palatine bones not in contact mesially, both without teeth; maxillary and mandibular teeth, moderate, conical; body elongate; limbs reduced or absent; eye small; lower eyelid scaly; external ear opening small or absent.

The following key will serve to distinguish the known species of the genus *Brachymeles*.

1. Limbs absent *B. vermis*
- Limbs present 2
2. Limbs pentadactyl 8
- Either fore or hind limbs or both with less than 5 digits 3
3. Digits entirely absent or a single vestigial claw present *B. bonitae*

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- Two or more digits present (frequently represented only as clawed vestiges) 4
4. Limbs with 2 digits *B. samarensis* sp. nov.
 Limbs with more than 2 digits 5
5. Limbs with 3 digits *B. tridactylus* sp. nov.
 Limbs with more than 3 digits 6
6. Fore limbs with 5 digits; hind limbs with 4 *B. pathfinderi*
 Fore and hind limbs with 4 digits 7
7. Midbody scale rows -22-; scale rows between the parietals and the base of the tail 83-85 *B. elerae*
 Midbody scale rows -28-; scale rows between the parietals and the base of the tail -102- *B. wrighti*
8. Limbs short, length of the hind limb about 9 to 12 per cent of the snout-vent length for mature individuals; number of scale rows along the vertebral line between the parietals and the base of the tail 92-94 *B. bicolor*
 Limbs moderate, length of the hind limb about 16 to 25 per cent of the snout-vent length for mature individuals; number of scale rows along the vertebral line between the parietals and the base of the tail very rarely as great as 75 (generally 63 to 73) 9
9. Size at maturity 75-129 mm. snout-vent length for 28 specimens; supranasals large in contact (30 of 45 specimens examined) or narrowly separated; number of midbody scale rows 26-32 (mean = 27.9 ± 0.265) for 49 specimens; number of middorsal scale rows between the parietals and the base of the tail 67-73 (mean = 69.1 ± 0.214) for 49 specimens; venter and lower lateral surfaces very light with no or very few dark spotted scales. *B. schadenbergi*
- Size at maturity 57.5 to 95 mm. for 72 adult specimens; supranasals moderate, generally rather widely separated, in contact in only 2 out of 50 specimens examined; number of midbody scale rows 24-28 (mean = 26.0 ± 0.104) for 81 specimens; number of middorsal scale rows between the parietals and the base of the tail 63-69 (mean = 65.6 ± 0.132) for 100 specimens; lower lateral surfaces and frequently venter with numerous dark Spotted scales (except in *B. gracilis boulengeri*) *B. gracilis*

BRACHYMELES VERMIS Taylor

Brachymeles vermis Taylor, 1918, Philip. Journ. Sci., 13:255 — Bubuan Id., Sulu Archipelago.

Material examined. Jolo Id. 5 (C.A.S. 60720-22, 60857-58); Bubuan Id., Sulu Arch. 1 (C.A.S. 62489).

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Material examined. Jolo Id. 5 (C.A.S. 60720-22, 60857-58); Bubuan Id., Sulu Arch. 1 (C.A.S. 62489).

Diagnosis. Habitus very slender; snout to vent length 64-76 mm. for 3 mature specimens; limbs absent; no ear opening; no postnasal; 22-24 scale rows around the middle of the body (6 specimens); 104-109 scale rows along the middorsal line between the parietals and the base of the tail (6 specimens).

Range. Known from Bubnan, Jolo and Sulu Islands, Sulu Archipelago.

BRACHYMELES BONITAE Duméril and Bibron

Brachymeles bonitae Duméril and Bibron, 1839, Erpet. Gen., 5:777 — Manila, Luzon Island.

Brachymeles burksi Taylor, 1917, Philip. Journ. Sci., 12:275 — Sumagui, Mindoro Island.

Material examined. Holotype (examined by Dr. Jean Guibé); Mindoro Id. 3 (C.A.S. 62064, C.N.H.M. 22525, S.U. R-20); Luzon Id. 3 (C.A.S. 61376-77, 62578); Kalotkot Id. 2 (C.A.S. 60556-57); Polillo Id. 3 (C.A.S. 62278-79, 62575).

The single specimen (No. 1151, now C.A.S. 62578) referred to *B. bonitae* by Taylor (1917, 1922), with which he compared *B. burksi* when describing that species, is somewhat aberrant, whether compared with the type of *B. bonitae* or *B. burksi*; it differs primarily in the much greater number of scale rows along the middorsal line between the parietals and the base of the tail, 113 instead of 100 to 106 for 11 specimens of *B. bonitae* (holotype 104). The fusion of the first pair of lower labials with the mental, illustrated by Taylor, is characteristic of the type of *bonitae* and also of 6 of the 9 specimens of *B. burksi* examined for this character. Whether or not the greater number of middorsal scale rows is actually an individual aberration or characterizes a more or less isolated population of *B. bonitae* cannot be determined at this time.

Diagnosis. Habitus very slender; snout to vent length 57-82.5 mm. for 6 mature specimens; limbs reduced to vestiges without evidence of toes or with a single claw, length of hind limb about 3.5 to 4.3 per cent of the snout-vent length (4 specimens); no ear opening; no postnasal; 22-23 scale rows around the middle of the body for 10 specimens; 100-106 scale rows along the middorsal line between the parietals and the base of the tail. One specimen (C.A.S. 62578) from Los Banos, Luzon, is far out of

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this range, exhibiting 113 middorsal scale rows, but as noted above, is tentatively referred to this species.

Range. Known from Luzon, Mindoro, Polillo and Kalotkot Islands in the northern part of the archipelago.

BRACHYMELES SAMARENSIS sp. nov.

Holotype. C.N.H.M., No. 44472, a juvenile, collected by G. N. Rysgaard, at Guiuan, Samar Island, Philippine Islands, January 10, 1945.

Diagnosis. A slender *Brachymeles* with very short limbs, possessing only two reduced digits on both the fore and hind limbs; midbody scale rows -22-; scale rows along the vertebral line between the parietals and the base of the tail -86-.

Description. A *Brachymeles* of very slender habitus; head little wider than the body, tapering anteriorly to the rounded snout; rostral large, in broad contact with the frontonasal; nostril in a small nasal; no postnasal; supranasals widely separated in the midline; prefrontals of moderate size, widely separated; 5 supraoculars, anterior two in contact with the frontal; 6 superciliaries; frontoparietals in contact; interparietal large, round-pointed posteriorly; parietals in contact posterior to the interparietal; a pair of nuchals which are narrower than the parietals; two frenals, anterior slightly longer and wider than the posterior; first upper labial largest, fourth beneath the orbit; no external evidence of ear; number of scale rows around the middle of the body -22-, number of scale rows along the vertebral line between the parietals and the base of the tail -86-; limbs very short, length of hind limb about one fifteenth the snout-vent length; digits reduced to 2 clawed stumps on each foot.

Measurements of holotype. Snout to vent 43.5 mm.; length of hind limb 3 mm.

Color (in preservative). Dorsal and lateral surfaces are dark yellowish brown, each scale generally being dark spotted posteriorly; the venter is only slightly lighter.

Relationship. It would appear to be more closely related to *B. elerae* than to *B. bonita* for, although the extent of reduction of the limbs and digits is somewhat intermediate, the elongation of the body as measured by the number of middorsal scale rows between the parietals and the base of the tail is essentially

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the same as that of *B. elerae*, 86 as compared to 83-85 for 2 specimens of the latter. The number of scale rows between the parietals and the base of the tail for 11 specimens of *B. bonitae* is 100-106.

Range. Known only from the type locality.

BRACHYMELES TRIDACTYLUS sp. nov.

Holotype. N.H.M.S.U. No. 18354, a probably mature female, collected 1 to 3 kilometers northwest of Mayaposi spring, about 20 kilometers west of Bais, Negros Oriental, at an altitude of about 2000 feet on January 12 to 17, 1955, by Mr. Filomeno Empeso.

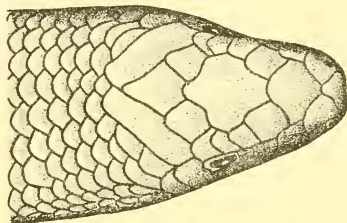


Fig. 1. Dorsal view of head of *Brachymeles tridactylus*.

Paratypes. N.H.M.S.U. Nos. 18355-56 and M.C.Z., No. 54258, collected at the same locality as the holotype.

Diagnosis. A slender *Brachymeles*, with short limbs, possessing three reduced, clawed digits on both the fore and hind limbs; scale rows 22-24; scale rows along the middorsal line between the parietals and the base of the tail 95-103.

Description. A *Brachymeles* of very slender habitus; head not or scarcely wider than the body, tapering anteriorly to a narrow, truncate margin of contact with the frontonasal; nostril in a minute nasal; supranasals not in contact in the midline for any of the present series; prefrontals moderate, rather widely separated; 4 supraoculars, anterior two in contact with the frontal; 5 superciliaries; frontoparietals narrowly or moderately

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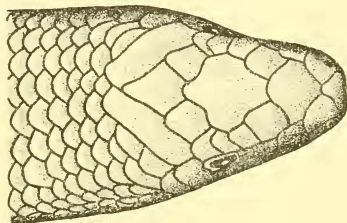


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separated in the midline; interparietal large, rather pointed posteriorly; parietals meeting posterior to the interparietal; a distinct pair of nuchals in only one specimen; two frenals, nearly equal, or the anterior slightly shorter and wider; first upper labial largest, fourth beneath the orbit; no external evidence of ear; number of scale rows around the middle of the body 22 to 24; number of scale rows along the vertebral line between the parietals and the base of the tail 95 to 103; limbs much reduced, the length of the hind limb about one sixteenth to one twentieth the snout-vent length; digits reduced to three clawed stumps on each foot.

Measurements of holotype. Total length 106 mm.; snout to vent 65 mm.; axilla to groin 49 mm.; snout to forelimb 13 mm.; length of hind limb 4 mm.

The largest specimen measures 78 mm. from snout to vent.

Color (freshly preserved material). Dorsal and lateral surfaces are nearly chocolate brown to dark slate brown; the venter is somewhat lighter in shade. Actually the basal part and center of each scale is pigmented, the overlapping lateral and distal edges are not.

Relationship. This species is apparently most closely related to *B. bonitae* from which it differs primarily in less reduced limbs and the presence of three stump-like, clawed digits on each limb. *B. bonitae* has lost all the digits or retained a vestige of only one at the tips of the minute limbs.

Range. Known only from the type locality.

BRACHYMELES ELERAE Taylor

Brachymeles elerae Taylor, 1917, Philip. Journ. Sci., 12:273 — Philippine Islands.

Material examined. Luzon Id. 2 (C.A.S. 61499-500).

Diagnosis. Habitus very slender; snout to vent length 69-71 mm. for 2 mature specimens; limbs greatly reduced with vestiges of 4 clawed toes on both fore and hind limbs; length of hind limb 7.2 to 9.3 per cent of the snout-vent length (4 specimens); no ear opening; no postnasal; -22- scale rows around the middle of the body; 83-85 scale rows along the middorsal line between the parietals and the base of the tail.

Range. Known definitely from Balbalan, Mountain Province, Luzon Island.

separated in the midline; interparietal large, rather pointed posteriorly; parietals meeting posterior to the interparietal; a distinct pair of nuchals in only one specimen; two frenals, nearly equal, or the anterior slightly shorter and wider; first upper labial largest, fourth beneath the orbit; no external evidence of ear; number of scale rows around the middle of the body 22 to 24; number of scale rows along the vertebral line between the parietals and the base of the tail 95 to 103; limbs much reduced, the length of the hind limb about one sixteenth to one twentieth the snout-vent length; digits reduced to three clawed stumps on each foot.

Measurements of holotype. Total length 106 mm.; snout to vent 65 mm.; axilla to groin 49 mm.; snout to forelimb 13 mm.; length of hind limb 4 mm.

The largest specimen measures 78 mm. from snout to vent.

Color (freshly preserved material). Dorsal and lateral surfaces are nearly chocolate brown to dark slate brown; the venter is somewhat lighter in shade. Actually the basal part and center of each scale is pigmented, the overlapping lateral and distal edges are not.

Relationship. This species is apparently most closely related to *B. bonitae* from which it differs primarily in less reduced limbs and the presence of three stump-like, clawed digits on each limb. *B. bonitae* has lost all the digits or retained a vestige of only one at the tips of the minute limbs.

Range. Known only from the type locality.

BRACHYMELES ELERAE Taylor

Brachymeles elerae Taylor, 1917, Philip. Journ. Sci., 12:273 — Philippine Islands.

Material examined. Luzon Id. 2 (C.A.S. 61499-500).

Diagnosis. Habitus very slender; snout to vent length 69-71 mm. for 2 mature specimens; limbs greatly reduced with vestiges of 4 clawed toes on both fore and hind limbs; length of hind limb 7.2 to 9.3 per cent of the snout-vent length (4 specimens); no ear opening; no postnasal; -22- scale rows around the middle of the body; 83-85 scale rows along the middorsal line between the parietals and the base of the tail.

Range. Known definitely from Balbalan, Mountain Province, Luzon Island.

BRACHYMELES WRIGHTI Taylor

Brachymeles wrighti Taylor, 1925, Philip. Journ. Sci., 26:106 — Trinidad, northern Luzon Island.

Material examined. Holotype (M.C.Z. 26589: examined by Mr. Arthur Loveridge).

Diagnosis. Habitus slender; snout-vent length 130 mm. for one specimen; limbs greatly reduced with 4 clawed toes on both fore and hind limbs, length of hind limb 7.5 per cent snout-vent length (1 specimen); ear opening questionable because of injury; no postnasal; -28- scale rows around the middle of the body; -102- scale rows along the middorsal line between the parietals and the base of the tail.

Range. Known only from the mountains of northern Luzon Island.

BRACHYMELES PATHFINDERI Taylor

Brachymeles pathfinderi Taylor, 1925, Philip. Journ. Sci., 26:104 — Glan, Cotabato Province, Mindanao.

Material examined. Holotype (M.C.Z. 26581: examined by Mr. Arthur Loveridge); Mindanao 2 (M.C.Z. 26582-83).

Diagnosis. Habitus slender; snout to vent length 58-61 mm. for 3 mature specimens; limbs greatly reduced with vestiges of five clawed toes on the fore limbs and four on the hind limbs, length of hind limb 13.6-17.2 per cent of snout-vent length (3 specimens); ear opening minute; no postnasal; 22-23 scale rows around the middle of the body; 59-67 scale rows along the vertebral line between the parietals and the base of the tail.

Range. Known only from the type locality.

BRACHYMELES BICOLOR (Gray)

Senira bicolor (part), Gray, 1845, Cat. Lizards Brit. Mus.: 98 — Philippine Islands.

Material examined. Holotype and one additional specimen (examined by Mr. J. C. Battersby).

Diagnosis. Habitus slender; snout to vent length 155 mm. for 2 mature specimens; limbs reduced with 5 clawed toes present on each foot, length of hind limb 9.7 to 11 per cent of snout-vent length (2 specimens); -28- rows of scales around the middle of

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Diagnosis. Habitus slender; snout-vent length 130 mm. for one specimen; limbs greatly reduced with 4 clawed toes on both fore and hind limbs, length of hind limb 7.5 per cent snout-vent length (1 specimen); ear opening questionable because of injury; no postnasal; -28- scale rows around the middle of the body; -102- scale rows along the middorsal line between the parietals and the base of the tail.

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Material examined. Holotype and one additional specimen (examined by Mr. J. C. Battersby).

Diagnosis. Habitus slender; snout to vent length 155 mm. for 2 mature specimens; limbs reduced with 5 clawed toes present on each foot, length of hind limb 9.7 to 11 per cent of snout-vent length (2 specimens); -28- rows of scales around the middle of

the body; 92-94 rows of scale along the vertebral line between the parietals and the base of the tail.

Range. Early records are given as from the Philippine Islands. More definite information as to the distribution of this species can not be stated at this time.

BRACHYMELES GRACILIS (Fischer)

Several populations of this species exhibit rather conspicuous and constant differences in color pattern and in certain instances in scalation or other characters. The Negros population does not exhibit the narrow, dorso-lateral light stripe which in general characterizes other known populations. The venter and lower lateral surfaces of the Polillo population are very much lighter in color than is true of the Mindanao-Sulu population. The dark spotting of the venter is somewhat intermediate for examples from the Negros and Bohol. The postnasal is small and does not contact the second upper labial in the Mindanao-Sulu population, but is larger and in contact with the second upper labial in most examples of the other known populations. Also as pointed out by Taylor (1922), the ear opening is better developed in *B. g. boulengeri* than in *B. g. gracilis*.

The population from Bohol Island is in closer agreement with regard to color pattern, distinctness of the dorso-lateral stripe and the size of the postnasal shield with the population of the northern islands (Luzon and Polillo) than it is with that of Mindanao to the south, and is referred to the subspecies *boulengeri* Taylor which was described from Polillo Island. If this interpretation is correct, intervening islands of Leyte and Samar are in all probability occupied by this subspecies. The differences in the number of midbody scale rows and the number of middorsal scale rows between the parietals and the base of the tail exhibited by populations of different islands are not significant (Table 1).

BRACHYMELES GRACILIS GRACILIS (Fischer)

Eumeces (Riopa) gracilis Fischer, 1885, Jahrb. wiss. Anst. Hamburg, 2: 85 — Mindanao Island.

Brachymeles suluensis Taylor, 1918, Philip. Journ. Sci., 13:254 — Bubuan Island, Sulu Archipelago.

the body; 92-94 rows of scale along the vertebral line between the parietals and the base of the tail.

Range. Early records are given as from the Philippine Islands. More definite information as to the distribution of this species can not be stated at this time.

BRACHYMELES GRACILIS (Fischer)

Several populations of this species exhibit rather conspicuous and constant differences in color pattern and in certain instances in scalation or other characters. The Negros population does not exhibit the narrow, dorso-lateral light stripe which in general characterizes other known populations. The venter and lower lateral surfaces of the Polillo population are very much lighter in color than is true of the Mindanao-Sulu population. The dark spotting of the venter is somewhat intermediate for examples from the Negros and Bohol. The postnasal is small and does not contact the second upper labial in the Mindanao-Sulu population, but is larger and in contact with the second upper labial in most examples of the other known populations. Also as pointed out by Taylor (1922), the ear opening is better developed in *B. g. boulengeri* than in *B. g. gracilis*.

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Eumeces (Riopa) gracilis Fischer, 1885, Jahrb. wiss. Anst. Hamburg, 2: 85 — Mindanao Island.

Brachymeles suluensis Taylor, 1918, Philip. Journ. Sci., 13:254 — Bubuan Island, Sulu Archipelago.

Material examined. Basilan Id. 2 (C.A.S. 60365-66); Mindanao Id. 32 (N.H.M.S.U. 18596; C.A.S. 15567; C.N.H.M. 52637, 52642-52, 52654-70, 52800).

Diagnosis. Habitus rather slender; snout to vent length 57.5-82 mm. for 10 mature specimens; length of hind limb 15.3 to 19.2 per cent of the snout to vent length for 10 adults; postnasal short, not in contact with the second upper labial in any of 30 specimens examined for this character; 24-26 scale rows around the middle of the body for 36 specimens; 64-69 scale rows along the middorsal line between the parietals and the base of the tail for 36 specimens; narrow dorsolateral light stripe generally present, extending anteriorly to the posterior edge of the orbit and posteriorly to the groin or nearly so; lower lateral surfaces dark spotted; midventral region distinctly dark spotted (24 out of 30 specimens), the dark spots generally occupying the basal and central portion of each scale.

Range. Known definitely from the Sulu Archipelago and Mindanao.

BRACHYMELES GRACILIS BOULENGERI Taylor

Brachymeles boulengeri (part) Taylor, 1922, Philip. Bur. Sci. Pub. No. 17:246 — Polillo Island.

Material examined. Polillo Id. 6 (C.A.S. 62272-77); Luzon Id. 2 (C.A.S. 61096-97); Bohol Id. 24 (S.U. R-353; N.H.M.S.U. 18271-76, 18707-11, 18714-20; M.C.Z. 54252-3).

Diagnosis. Habitus rather slender; snout to vent length 61-92 mm. for 19 mature specimens; length of the hind limb 17.9-23.8 per cent of snout-vent length for 19 mature specimens; postnasal long, in contact with the second supralabial in 24 of 26 specimens examined; 24-28 scale rows around the middle of the body (mean = 26.1 ± 0.175) for 27 specimens; 63-66 scale rows along the middorsal line between the parietals and the base of the tail (mean = 64.2 ± 0.198) for 27 specimens; narrow dorso-lateral stripe (in life near to Monkey skin or Vassar tan, Maerz and Paul, 1930, pls. 6 and 10) generally present (27 out of 28 specimens), extending anteriorly onto the supraorbital region and posteriorly to the groin (this stripe is generally more distinct than in *B. g. gracilis*); lower lateral surfaces dark spotted; venter with moderate dark spotting or with such spotting absent.

Material examined. Basilan Id. 2 (C.A.S. 60365-66); Mindanao Id. 32 (N.H.M.S.U. 18596; C.A.S. 15567; C.N.H.M. 52637, 52642-52, 52654-70, 52800).

Diagnosis. Habitus rather slender; snout to vent length 57.5-82 mm. for 10 mature specimens; length of hind limb 15.3 to 19.2 per cent of the snout to vent length for 10 adults; postnasal short, not in contact with the second upper labial in any of 30 specimens examined for this character; 24-26 scale rows around the middle of the body for 36 specimens; 64-69 scale rows along the middorsal line between the parietals and the base of the tail for 36 specimens; narrow dorsolateral light stripe generally present, extending anteriorly to the posterior edge of the orbit and posteriorly to the groin or nearly so; lower lateral surfaces dark spotted; midventral region distinctly dark spotted (24 out of 30 specimens), the dark spots generally occupying the basal and central portion of each scale.

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Table 1
Comparison of subspecies of *Brachymeles gracilis*

	No. of midbody scale rows	Dorsal scale rows between parietals and base of tail	Dorso-lateral stripe present
<i>B. g. gracilis</i> (Mindanao and Basilan)	R = 24-26 M = 25.6 ± 0.197 N = 36	R = 64-69 M = 66.4 ± 0.201 N = 36	Yes
<i>B. g. boulengeri</i> (Polillo)	R = 24-26 M = 25.7 ± 0.305 N = 6	R = 64-66 M = 65.2 ± 0.367 N = 6	Yes
<i>B. g. boulengeri</i> (Luzon)	R = 26,26 N = 2	R = 63,65 N = 2	Yes
<i>B. g. boulengeri</i> (?) (Bohol)	R = 24-28 M = 26.2 ± 0.158 N = 21	R = 63-66 M = 64.0 ± 0.199 N = 21	Yes
<i>B. g. taylori</i> (Negros)	R = 24-28 M = 26.5 ± 0.097 N = 49	R = 64-68 M = 65.6 ± 0.150 N = 49	No
<i>B. g. taylori</i> (Mindoro)	R = 26 N = 1	R = 66 N = 1	No

R = range, M = mean, N = number of specimens

Color (freshly preserved material). The following notes were based on material which had been in preservative only a day or two. Six to 8 middorsal scale rows are Natal Brown to Chestnut (Maerz and Paul, pl. 7), not uniform but each scale with a darker brown blotch at the base. A dorso-lateral stripe (generally one and a half scale rows in width anteriorly and up to one and two half scale rows posteriorly) is somewhat variable usually near Monkey skin or Army brown (Maerz and Paul, pls. 5 and 6). Five to 7 lateral rows exhibit prominent, dark brown spots; the venter is Rose tan (Maerz and Paul, pl. 12), occasionally with small brownish spots. Four or 5 rows on the chin, posterior to the mental, are dusky or brownish.

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Range. Known from Polillo, Luzon and Bohol Islands. The latter population is assigned to this subspecies with some reservations, pending the time when collections are available for comparison from the islands of Samar and Leyte.

BRACHYMELES GRACILIS TAYLORI subsp. nov.

Brachymeles boulengeri (part) Taylor, 1922, Philip. Bur. Sci. Pub. No. 17:246.

Holotype. N.H.M.S.U., No. 18615, a male, collected by W. C. Brown and D. S. Rabor on low ridge on the north side of the Maite River, about 13 kilometers west of Dumaguete on Cuernos de Negros, Negros Oriental, July 4, 1954.

Paratypes. Negros Id. 126 (N.H.M.S.U. 17954-55, 18611-14, 18616-24, 18626-28, 18630-31, 18633-37, 18664-80, 18694-700, low

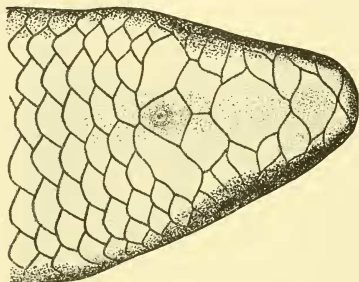


Fig. 2. Dorsal view of head of *Brachymeles gracilis taylori*.

ridge north of the Maite River, Cuernos de Negros, about 3-7 km. west of Luzuriaga, Negros Oriental, July, 1954 to February, 1955; 18597-18604, 18659-63, high ridge north of Maite River and on north slope of north peak of Cuernos de Negros, about 6-8 km. west of Luzuriaga, Negros Oriental, February and March, 1955; 18638-58, 18691-93, 18728, 18748-50, ridge, south of Maite River, east slope of Cuernos de Negros, about 4 to 7 km. west of Luzuriaga, Negros Oriental, November, 1954, to March, 1955; 18686-88, east side of Cuernos de Negros, Negros Oriental; 12027, 12224, 12226, Dumaguete environs, Negros Ori-

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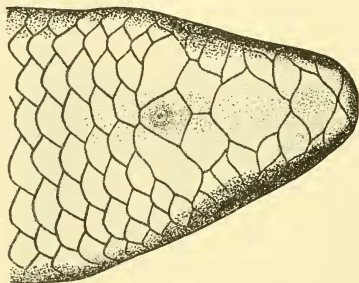


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ental, August, 1940; 18751, 18729-32, lowlands 2 to 6 km. west of Dumaguete, Negros Oriental, July and August, 1954; 18689, $\frac{1}{2}$ km. S.W. of Palimpinon, Ocoy River Valley, Negros Oriental, August, 1954; 18605, 18681-85, 18690, 18752, Mayaposi environs and hills to the north and west of Mayaposi, about 20-30 km. west of Bais, Negros Oriental, January to March, 1955; 18727, Ilaya sitio, 3-4 km. south of Caliling, Negros Occidental, December, 1954; S.U. R-117-18, 242-44, 246, 251, 262, 267, 272-73, 275-78, Cuernos de Negros area, Negros Oriental; M.C.Z. 54254-6, low ridge north of Maite River, Cuernos de Negros, 3 to 7 km. west of Luzuriaga, Negros Oriental, 1954.

Diagnosis. Habitus rather slender; snout to vent length 62-95 mm. for 32 mature specimens; length of hind limb 16 to 22.5 per cent of snout-vent length for 28 mature specimens; postnasal long, in contact with the second supralabial in 37 of 45 specimens examined for this characteristic; 24-28 scale rows around the middle of the body for 49 specimens; 64-68 scale rows along the middorsal line between the parietals and the base of the tail for 49 specimens; dorsolateral light stripe not present; lower lateral surfaces and generally venter dark spotted.

Color (freshly preserved material). The dorsum and the upper lateral surfaces vary from light to dark brown, forming a pattern of dark and light, narrow, longitudinal stripes or nearly uniform. The lower lateral surfaces vary from near Rosetan to Blush or darker (Maerz and Paul, pl. 12), frequently with scattered to numerous small brown spots.

Range. Known from Negros Island and probably Mindoro.

BRACHYMELES SCHADENBERGI Fischer

The Negros population exhibits constant differences in certain characteristics for a sufficiently large series of specimens to justify its recognition as a subspecies which is distinct from the typical one of Mindanao Island. The 3 available examples from Jolo and 2 specimens from the mountains of northern Luzon are close to the Negros population in the number of middorsal scale rows between the parietals and the base of the tail, and the presence of a more or less distinct, dorsolateral light stripe, and are tentatively referred to this subspecies. The single specimen from Palawan (C.A.S. 15571) lacks the light stripe and would

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appear to agree most closely with the Mindanao population.

If larger samples do indeed prove the Luzon, Negros and Jolo populations to be the same from a taxonomic standpoint, and that of Palawan, Basilan, Mindanao, Leyte and Bohol to be taxonomically identical, this distributional pattern, which is not wholly in accordance with logical routes of dispersal in terms of what is known of the geological history of the archipelago, suggests three possible interpretations: (1) chance colonization of widely separated islands, across intervening sea barriers, by two distinct subspecies; (2) more or less isolated populations of a polytypic species exhibiting chance convergence with respect to the presence or absence of a dorsolateral stripe; (3) two population groups of sibling species, very similar morphologically, which have maintained disjunct distributions within this archipelago. The first interpretation is accepted with some reservations in this paper.

BRACHYMELES SCHADENBERGI SCHADENBERGI (Fischer)

Eumeces (Kiopa) schadenbergi Fischer, 1885, Jahrb. wiss. Aust. Hamburg, 2: 87 — Mindanao Island.

Material examined. Basilan Id. 15 (C.A.S. 60305-10, 60312, 60438-40, 60493-98); Mindanao Id. 7 (C.N.H.M. 22528-29, 52638-41, 61963-64); Leyte Id. 3 (N.H.M.S.U. 18701; C.N.H.M. 42779, 42792); Bohol Id. 5 (N.H.M.S.U. 18702-06); Palawan Id. 1 (C.A.S. 15571).

Diagnosis. A moderately large *Brachymeles* with rather well developed limbs; number of midbody scale rows 26-28 (mean = 26.5 ± 0.161 for 25 specimens); a light dorso-lateral stripe absent; the second pair of chin shields separated by three scales.

Color (freshly preserved material from Bohol Island). Dorsum and upper surface of limbs are blackish brown; lateral surfaces are near Melon, Baby rose, Crabapple, Burmese gold or Burnt orange (Maerz and Paul, pls. 2 and 3). The venter is whitish, lightly tinted with the above shades.

Range. Known from the Sulu Archipelago, Mindanao, Leyte and Bohol Islands (probably also Palawan Island).

appear to agree most closely with the Mindanao population.

If larger samples do indeed prove the Luzon, Negros and Jolo populations to be the same from a taxonomic standpoint, and that of Palawan, Basilan, Mindanao, Leyte and Bohol to be taxonomically identical, this distributional pattern, which is not wholly in accordance with logical routes of dispersal in terms of what is known of the geological history of the archipelago, suggests three possible interpretations: (1) chance colonization of widely separated islands, across intervening sea barriers, by two distinct subspecies; (2) more or less isolated populations of a polytypic species exhibiting chance convergence with respect to the presence or absence of a dorsolateral stripe; (3) two population groups of sibling species, very similar morphologically, which have maintained disjunct distributions within this archipelago. The first interpretation is accepted with some reservations in this paper.

BRACHYMELES SCHADENBERGI SCHADENBERGI (Fischer)

Eumeces (Kiopa) schadenbergi Fischer, 1885, Jahrb. wiss. Aust. Hamburg, 2: 87 — Mindanao Island.

Material examined. Basilan Id. 15 (C.A.S. 60305-10, 60312, 60438-40, 60493-98); Mindanao Id. 7 (C.N.H.M. 22528-29, 52638-41, 61963-64); Leyte Id. 3 (N.H.M.S.U. 18701; C.N.H.M. 42779, 42792); Bohol Id. 5 (N.H.M.S.U. 18702-06); Palawan Id. 1 (C.A.S. 15571).

Diagnosis. A moderately large *Brachymeles* with rather well developed limbs; number of midbody scale rows 26-28 (mean = 26.5 ± 0.161 for 25 specimens); a light dorso-lateral stripe absent; the second pair of chin shields separated by three scales.

Color (freshly preserved material from Bohol Island). Dorsum and upper surface of limbs are blackish brown; lateral surfaces are near Melon, Baby rose, Crabapple, Burmese gold or Burnt orange (Maerz and Paul, pls. 2 and 3). The venter is whitish, lightly tinted with the above shades.

Range. Known from the Sulu Archipelago, Mindanao, Leyte and Bohol Islands (probably also Palawan Island).

Table 2
Comparison of subspecies of *Brachymeles schadenbergi*

	No. of midbody scale rows	Dorsal scale rows between parietals and base of tail	Dorso-lateral stripe present
<i>B. s. schadenbergi</i> (Mindanao and Basilan)	R = 26-28 M = 26.5 ± 0.161 N = 25	R = 67-71 M = 68.8 ± 0.250 N = 25	No
<i>B. s. schadenbergi</i> (Leyte)	R = 28 N = 3	R = 68,68,70 N = 3	No
<i>B. s. schadenbergi</i> (Bohol)	R = 28 N = 5	R = 70,71 (4) N = 5	No
<i>B. s. schadenbergi</i> (?) (Palawan)	R = 28 N = 1	R = 70 N = 1	No
<i>B. s. talinis</i> (Negros)	R = 28-32 M = 30.4 ± 0.276 N = 11	R = 67-70 M = 68.2 ± 0.193 N = 12	Yes
<i>B. s. talinis</i> (?) (Jolo)	R = 29,30,32 N = 3	R 72,72,73 N = 3	Yes
<i>B. s. talinis</i> (?) (Luzon)	R = 26,28 N = 2	R = 69,70 N = 2	Yes

R = range, M = mean, N = number of specimens

BRACHYMELES SCHADENBERGI TALINIS subsp. nov.

Holotype. N.H.M.S.U. No. 18358, a female, collected by F. Empeso, December 14, 1954 on the low ridge north side of the Maite River, 5 to 6 km. west of Luzuriaga, Negros Oriental.

Paratypes. N.H.M.S.U. Nos. 12225 collected Dumaguete environs, Negros Oriental, 1940; 18359, low ridge north of the Maite River, Cuernos de Negros, about 5-6 km. west of Luzuriaga, Negros Oriental, Dec., 1954; 18363-64, 18366, high ridge north of the Maite River and on north slope of north peak of Cuernos de Negros, about 6-8 km. west of Luzuriaga, Negros Oriental, Dec., 1953, March, 1955; 18360-62, ridge south of the Maite

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River, east slope of Cuernos de Negros, about 6-7 km. west of Luzuriaga, Negros Oriental, Nov., 1954, March, 1955; M.C.Z. 54257, high ridge north of Maite River, Cuernos de Negros, about 6-8 km. west of Luzuriaga, Negros Oriental; S.U. R-261, ridge south of the Maite River, east slope of Cuernos de Negros, about 6-7 km. west of Luzuriaga, Negros Oriental; C.N.H.M. 22527, Mt. Canlaon, Negros Oriental.

Diagnosis. A large *Brachymeles* with rather well developed limbs, differing from the typical subspecies in the generally greater number of midbody scale rows 28-32 (mean = 30.4 ± 0.670 for 11 specimens); a moderately wide (two and two half scale rows at the shoulder), dorso-lateral light stripe, reddish in life, sometimes fading in older specimens; second pair of chin shields generally wider, separated by 1 scale in 8 specimens, 2 in 1 specimen and 3 in 2 specimens as compared to 3 in a sample of 23 specimens of the nominate subspecies examined for this character.

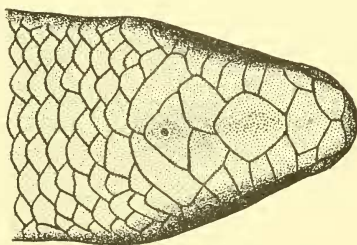


Fig. 3. Dorsal view of head of *Brachymeles schadenbergi talinis*.

Color (freshly preserved material). Dorsum is dark reddish brown, the lateral margins of the scales tending to be dull reddish producing an indistinct, lined pattern. This dorsal brown band is rather uniformly six and two half scale rows in width and is bordered on either side by a dull red stripe one and two half rows in width. (These fade to white or whitish tan in preservative.) These stripes begin just posterior to the eye and extend to the region of the hind limbs or the base of the tail.

River, east slope of Cuernos de Negros, about 6-7 km. west of Luzuriaga, Negros Oriental, Nov., 1954, March, 1955; M.C.Z. 54257, high ridge north of Maite River, Cuernos de Negros, about 6-8 km. west of Luzuriaga, Negros Oriental; S.U. R-261, ridge south of the Maite River, east slope of Cuernos de Negros, about 6-7 km. west of Luzuriaga, Negros Oriental; C.N.H.M. 22527, Mt. Canlaon, Negros Oriental.

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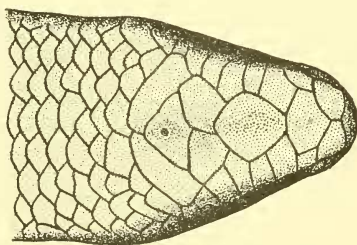


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They are most uniform and conspicuous in juveniles, tending to become somewhat paler and irregular, especially on the posterior part of the body for some adults. The red stripes are bordered ventrally by one to three or four rows of brownish or brown spotted scales. Lower lateral surfaces grayish white to light tan, frequently diffused with orange-yellow and with scattered brown spots especially in the midventral line and the region of the hind limbs. The labials are brownish; mental, rostral, nasals, supranasals and postnasals grayish.

Range. Known definitely at the present time from Negros Island (probably also Luzon and Jolo Islands, see p. 14)

The name *talinis* in the native dialect refers to mountains such as Cuernos de Negros which this subspecies inhabits.

ACKNOWLEDGMENTS

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This study was begun while the author was serving as a Fulbright lecturer at Silliman University, in the Philippine Islands, under the auspices of the United States Educational Foundation, and it was completed while working as a research associate at Stanford University supported by a grant from the National Science Foundation. Illustrations were prepared by Mr. Walter Zawojwski, Stanford Research Institute.

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